DD S/I

~~ED - FYI.~~

No action, but we need to be alert on this.

file SAFE

18 August 1981

Bruce:

The correct actions have been taken but Bob is right - convergence is slow.

Answers were sent to all questions last week. I expect several more rounds before resolution is achieved. [redacted] 25X1
25X1 will pursue with [redacted]

We are working with uncontrolled Delta Data documents, memoranda of agreement between us and engineering, unwritten test programs and documents having TRW's requirements specified. The PROMS sent out have been tested, but not much and not completely. Old features change or disappear new features may not be tested.

No more PROMS will be sent until CSPO has validated that testing is (successfully) completed. We may incur a list on schedule or cost. I'll update you personally.

[redacted] 25X1

12 August 1981

To: B. Johnson

Bruce--

I am very concerned about this situation which does not seem to be converging and thought I should bring it to your personal attention.

Bob

[redacted]

25X1

TRW

81.35656.06-106
16 July 1981

25X1

[redacted]

Contracting Officer

Subject: Review of Delta Data 7260T Documentation

Reference:
(1) "7260T Command Descriptions", dated 9 July 1981
(2) SAF-E430-81, DD 7260T Documentation, dated 25 June 1981
(3) Documentation Entitled "Delta Data 7260T SAFE Modifications", dated 16 June 1981
(4) "SAFE Project Terminal Configuration Document" SF-U-CE-078-00, dated 10 December 1980
(5) "Reference Manual for 7260T Video Display Terminal" P/N 917 M400 A000

25X1

Dear Mr. [redacted]

TRW has completed a review of the Documentation entitled "Delta Data 7260T SAFE Modifications", as requested in Reference Number 2.

Attachment Number 1 is a detailed page by page list of comments that were raised during the review of the documentation. These comments are divided into two groups:

- Those concerning problems
- Those concerning questions

Attachment Number 2 is a restatement of the problem group which segregates each problem into one of the following categories:

- Errors Introduced into the existing version 1.0 Firmware Capability
- Augmentations not implemented as required
- Augmentations not implemented

25X1

bcc: [redacted]

The problems and recommended solutions are listed in the order of importance to the SAFE Design.

TRW is proceeding to have the PROMS installed by Delta Data so that some testing can be initiated. This phase will undoubtedly assist in the clarification of some of the questions; however, it may generate others.

TRW is seriously concerned about the level of problem identification and implied status of Terminal Firmware with respect to the progress of the Software Development for Block 1.

TRW requests your immediate assistance in the resolution of the problems indicated and in the revision of the near term firmware delivery schedules.

Sincerely,

25X1 [redacted]

Contracts Manager
SAFE Project

ER:sf

Enclosures: As stated

25X1 cc: [redacted]

Attachment 1

The following is a detailed page by page list of the comments that were raised during the review of the Documentation:

I. Problems

The following list of problems was generated from the review of the "Delta Data 7260T SAFE Modifications":

1. Page 9, section 8 - The display previous, current, and next item commands have been replaced by the "display forward item" and "display backward item" commands in the Terminal Configuration Document (TCD). Will this change be made in the 7260T firmware and documentation? See problem 12 in Attachment 2.

2. Page 9, section 8, Section Mark Type - The TCD requires the terminal to enter format mode when the cursor enters a section typed as a "fixed" section and to leave format mode when the cursor exits the section regardless of whether format mode is turned on or off. This is not true according to the DD documentation. See problem 9 in Attachment 2.

3. Page 11, section 8.1 - The default for the section mark type is set to "fixed". It should be "variable". See problem 8 in Attachment 2.

4. Page 12, section 8.3 - The cursor position after successful execution of this command is the first character position in the section. The TCD requires the cursor to be in the home position of the split after successful execution of the command. See problem 11 in Attachment 2.

5. Page 14, section 8.6 - This is a wording problem. The next to last sentence reads: "If neither of the two requisite item marks are found,...". It should read: "If either of the two requisite item marks is not found,...". See problem 14 in Attachment 2.

6. Page 14, section 8.6 - The requirement for the "display previous item" command has been deleted from the TCD. Therefore, this command should be deleted from the firmware and documentation. See problem 10 in Attachment 1. If this command is retained the cursor should move to the home position of the split and not the first character position of the section. See problem 11 in Attachment 2.

Attachment 1

7. Page 14, section 8.7 - This command is equivalent to the "display backward item" command in the TCD. The cursor position after successful execution of this command is the first character position in the section. The TCD requires the cursor to be in the home position of the split after successful execution of the command. See problem 11 in Attachment 2.

8. Page 14, section 8.8 - This command is equivalent to the "display forward item" command in the TCD. The cursor position after successful execution of this command is the first character position in the section. The TCD requires the cursor to be in the home position of the split after successful execution of the command. See problem 11 in Attachment 2.

9. Page 19, section 11 - When tabstops have not been set and format mode for the split is turned off, the cursor moves to the next section mark or causes a bottom of split interrupt if there is no next section mark. The cursor should not move if tabstops are not set. See problem 2 in Attachment 2.

10. Page 19, section 12 - When tabstops have not been set and format mode for the split is turned off, the cursor moves to the last character in the previous section or causes a top of split interrupt if there is no previous section mark. The cursor should not move if tabstops are not set. See problem 3 in Attachment 2.

11. Page 19, section 12 - If format mode is turned on and the cursor is in an unprotected field (but not the first character of the field), the cursor should move to the beginning of the field not to the beginning of the previous field. See problem 4 in Attachment 2.

12. Page 19, section 12 - When format mode is turned on and the BACK TAB causes the cursor to move into a "variable" section, the cursor should move to the first character position in the section not the last character position in the section. See problems 5 in Attachment 2.

13. Page 20, section 14 - It is not clear from the documentation whether the trapped key and emit interrupts contain the information specified in bytes 4 through 9. What is the format of the trapped key and emit interrupts? What is the format of all existing interrupts, have they changed with the augmentations? See problem 6 in Attachment 2.

The following problems come from the command summary documentation.

14. Page 10, Note E - The following options have been removed from the terminal configuration options which can be set through the "set/clear options" shift out sequences:

    a) RESET
    b) BAUDOT mode
    c) Local Host-FDAM
    d) Program EAROM

    Option c) above may be needed by SAFE D for stand alone terminals, option d) will be needed to make changes to the split menu, options

Attachment 1

menu, and terminal configuration permanent. See problem 10 in Attachment 2.

15. Page 12, Note F - The following ARM commands have been deleted:

    a) Transmit first page
    b) Transmit last page
    c) Transmit search result (replaced with transmit section mark with ID <cc>)

    See problem 16 in Attachment 2.

16. Page 14-15, Note G - The following shift out sequences have been deleted from the Version 2.0 firmware. Their deletion will have a serious impact on the current SAFE design.

    a) SO . Reset disk/printer direct modes
    b) SO+A Print direct on
    c) SO+B Disk direct on
    d) SO+D Keyboard/local host toggel between BASIC and FDAM
    e) SO+d Link split A to top of split B
    f) SO+e Link split A to bottom of split B

    Deletion of SO. and SO+A prevents directly printing from the host to the local printer.

    Deletion of SO+B and SO+D could have an affect on SAFE D if floppy disk drives are used.

    Deletion of SO+d and SO+e will make it harder to keep ahead of the user when he is browsing. Less data can be linked between splits in a single operation. See problem 1 in Attachment 2.

17. Page 14, Note G - The following shift out sequences have been deleted from the Version 2.0 firmware. Their deletion could have a TBD impact on SAFE.

    a) SO T Insert SOM character
    b) SO d Define area
    c) SO i Justify paragraph

    See problem 13 in Attachment 2.

18. Page 14-15, Note G - The following shift out sequences have been deleted from the Version 2.0 firmware. There is no known impact on the SAFE design due to their deletion.

    a) SO x Change-illegal
    b) SO+N Delete first page
    c) SO+O Delete last page

    See problem 15 in Attachment 2.

The following problem is due to the augmentations listed below not being included in the documentation. It is not known whether the augmentations have been implemented or not.

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19. The following augmentations in the TCD were not included in the DD documentation. See problem 7 in Attachment 2.

    a) BOLD - paragraph 3.2.7.4.3
    b) UNDERLINE - paragraph 3.2.7.4.3
    c) NEG - paragraph 3.2.7.4.4
    d) Transmit temporary highlighted data - paragraph 3.2.7.4.5
    e) Print termporary highlighted data - paragraph 3.2.7.4.6

II. Questions and Comments

The following questions and comments were generated from the review of "Delta Data 7260T SAFE Modifications":

1. Page 2, section 3 - How is the end of the terminal's data base memory defined? This apparently does not mean the end of the 20K bytes since TOS and BOS interrupts depend on the amount of text memory actually used.
2. Page 2, section 3.1 - Is there any kind of notification to the host if <c> is not T or B and the command is ignored?
3. Page 2, section 3.1 - What happens if <H> is not in the range 0 to F?
4. Page 2, section 3.1 - What happens if the enable or disable commands are issued and the split referred to by <H> does not exist?
5. Page 2, section 3.1.1 - What is meant by "text position that is not located in the terminal's data base"? This appears to mean past the top of text memory used by the split.
6. Page 2-3, sections 3.1.1 and 3.1.2 - The implementation of the TOS and BOS do not give the user a continuous view of text in the terminal.
7. Page 2-3, sections 3.1.1 and 3.1.2 - Locking the keyboard may cause the user some problems if he keeps typing after the keyboard is locked.
8. Page 4, section 4 - The command to disable the memory almost full interrupt is not given in this section.
9. Page 4, section 4.1 - If a MOVE or COPY operation causes a split almost full interrupt, will the part of the text that was moved or copied before the interrupt be retained or lost?
10. Page 5, section 4.2 - How are released packets reassigned?
11. Page 6, section 5 - Can the terminal overwrite a message written on the terminal's status line by the "set host status message" command?
12. Page 6, section 5 - How is the horizontal separator used?
13. Page 8, section 6 - Can the terminal get in the state where DTR is false and the buffer will not empty pending more data (commands) from the host?

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14. Page 8, section 7 - Do these keys default to their "normal" definition on power up?

15. Page 9, section 8 - When format mode is turned on are sections typed as "variable" sections treated as variable sections?

16. Page 10, section 8 - If a section mark always starts on a memory allocation segment boundary (and is 64 bytes long), how can the section mark sometimes use two memory allocation segments?

17. Page 10, section 8 - What is the format of the section mark when it is in the terminal?

18. Page 10, section 8 - It has not been stated that section marks are not displayable. Is it safe to assume that section marks are not displayed on the screen?

19. Page 11, section 8.1 - When the "I" interrupt is issued, will the keyboard be locked?

20. Page 11, section 8.1 - Residual section marks could be a problem for off-line users or other systems using this terminal.

21. Page 12, section 8.2 - Is this command for the current section or can it be used to write to any section other than the current section?

22. Page 12, section 8.2 - What happens if the attributes, ID, or section header fields are left blank?

23. Page 13, section 8.4 - Will the gap formed by deleting a section in the middle of the text be closed as is currently done for the delete line command?

24. Page 13, section 8.5 - If a section is linked from the middle of a split, will the gap left by this section be closed?

25. Page 13, section 8.5 - When referring to more than one split, what defines the current section location in the split which does not contain the cursor?

26. Page 14, sections 8.6, 8.7, and 8.8 - If the item does not completely fill the split, will the remainder of the split be blanked?

27. Page 14, sections 8.6, 8.7, and 8-8 - The user could have problems if one of these commands is accidently issued and there are no item marks contained in the split.

28. Page 15, section 8.9.1 - The shift out sequence for the section mark is not consistent with the shift out sequence in section 8.2. It should be

    SO k <HH> <ID> <CCC...C> SOH

29. Page 16, section 8.9.2 - What data is transmitted if format mode is turned on and the section is a "variable" section?

30. Page 16, section 8.9.3 - How is data transmitted if format mode is turned off and there are "fixed" and "variable" sections that have been modified in the split?

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31. Page 16, section 8.9.3 - How is data transmitted if format mode is turned on and there are modified "fixed" and "variable" sections in the split?

32. Page 17, section 9 - What does the terminal do if there are no unprotected fields in a "fixed" section and format mode is turned on? It may be necessary to protect data to prevent the user from making changes to the data. This cannot be done using "variable" sections.

33. Page 18, section 10.2 - Can the destination of a MOVE or COPY operation be a "fixed" section if format mode is turned off?

34. Page 19, section 11 - Where does the cursor move if it is in the last unprotected field of a "fixed" section, the section is the last section in the split when format mode is turned on, and the TAB key is pressed?

35. Page 19, section 11 - Where does the cursor move if there are no tabstops set, the cursor is in a "variable" section, format mode is turned on, and the TAB key is pressed?

36. Page 21, section 14 - What are the possible combinations of the type "M" interrupts?

The following questions and comments are the result of the review of the command summary documentation.

37. Page 3 and page 13, note G - Is the command to start a blinking field a CTRL - (underline) as stated in the command summary documentation or a CTRL = (equal sign) as stated in the Video Display Reference Manual?

38. Page 4 and page 14, note G - Is the capitalize command a SO z as defined in the command sumary documentation or SO y as defined in the Video Display Reference Manual?

39. Page 4 and page 14, note G - Is the decapitalize command a SO y as defined in the command summary documentation or SO z as defined in the Video Display Reference Manual?

40. Page 4 - The hex codes for the capitalize and decapitalize commands agree with the Video Display Reference Manual. However, the shift out sequences do not agree. See questions 38 and 39 above.

41. Page 4 and page 15, note G - In the Video Display Reference Manual the "set comm/local host split" command is SO+W and the "set comm split" command is SO+X. These are reversed in the command summary documentation. Which is correct?

42. Page 5 - The shift out sequence for a required backspace is SO: (colon). The hex code for this should be OE 3A not OE 2A.

43. Page 10, note E - Can character 9 in the options menu be set to 0, indicating no cursor?

44. Page 10, note E - What are the keyboard repeat rates?

45. Page 10, note E - What are the keyboard delay rates?

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46. Page 10, note E - What are the printer carriage return delay rates?

47. Page 12, note F - The following ARM commands are new for the Version 2.0 firmware.

    a) Transmit from SOM to memory location
    b) Transmit from cursor to memory location
    c) Transmit from screen position to memory location
    d) Transmit from memory location to memory location
    e) Transmit section with ID <CC>
    f) Transmit all sections

    ARM commands e) and f) were requested with the augmentations.

48. Page 14, note G - Can the shift out sequence SO! still be issued from the terminal and is it still equivalent to pressing the ATTENTION key?

49. Page 14, note G - Can the shift out sequence SO" still be issued from the terminal and is it still equivalent to pressing the PAUSE key?

50. Page 14, note G - Can the shift out sequence SO# still be issued from the terminal and is it still equivalent to pressing the BACK TAB key?

51. Page 14, note G - The shift out sequence SO{ should be included under cursor control command on page 2.

52. Page 14, note G - Why was the "change" shift out sequence, SO x, deleted and not the "search" shift out sequence, SO h?

Attachment 2

The following is a list of problems and recommended solutions listed in the order of importance to the SAFE Design:

1) Problem - The following shift out sequences have been deleted from the Version 2.0 firmware:

   a) SO. Reset disk/print direct modes
   b) SO+A Print direct mode on
   c) SO+B Disk direct mode on
   d) SO+D Keyboard/local host toggel between BASIC and FDAM
   e) SO+d Link split A to top of split B
   f) SO+e Link split A to bottom of split B

   Solution - Reinstate the deleted shift out sequences.

The following four problems are equivalent in priority.

2) Problem - If format mode is turned off and no tabstops are defined, the cursor moves to the next section mark or end of split when the TAB key is pressed.

   Solution - Cursor should not move when format mode is turned off and no tabstops have been set.

3) Problem - If format mode is turned off and no tabstops are defined, the cursor moves to the last character in the previous section or to the beginning of the split when the BACK TAB key is pressed.

   Solution - Cursor should not move when format mode is turned off and no tabstops have been set.

4) Problem - If format mode is turned on and the cursor is in an unprotected field, the cursor moves to the beginning of the previous unprotected field when the BACK TAB key is pressed. This happens regardless of the cursor position within the field.

   Solution- If the cursor is in any character position within the unprotected field, other than the first character position, the cursor should move to the first character position within the field.

5) Problem - The cursor moves to the last character position of a "variable" section, when a section boundary is crossed from a "fixed" section and format mode is turned on when the BACK TAB key is pressed.

   Solution- The cursor should move to the first character position of a "variable" section when a section boundary is crossed from a "fixed" section.

6) Problem - It is not clear from the documentation whether the trap key and emit interrupts have the format as specified for new interrupts.

Solution- Change the format of the trap key and emit interrupts to be consistent with the format of the new interrupts.

7) Problem - It is not clear from the documentation whether the following augmentations were implemented as requested.

a) BOLD
b) UNDERLINE
c) NEG
d) Transmit temporary highlight data
e) Print temporary highlight data

Solution-Confirm if/how the augmentations were implemented.

8) Problem - The default for the section mark type is "fixed".

Solution- Change the default for the section mark type to "variable".

9) Problem - The screen does not enter format mode when the cursor enters a "fixed" section unless format mode is turned on.

Solution- The screen should enter format mode whenever the cursor enters a "fixed" section regardless of whether format mode is turned on or off.

10) Problem - The following options have been deleted from the terminal configuration options:

a) RESET
b) BAUDOT mode
c) Local Host = FDAM
d) Program EAROM

Solution- Reinstate RESET, Local Host = FDAM, and Program EAROM. BAUDOT mode need not be reinstated.

The following three problems are equivalent in priority:

11) Problem - For the following commands the cursor is positioned on the first data character of the section if the command is successfully executed:

a) Display a section
b) Display previous item
c) Display current item
d) Display next item

The cursor should be positioned at the home position after execution of the command.

Solution- Position the cursor at the home position after execution of the command.

Attachment 2

12) Problem - The "display previous item" command augmentation has been removed from the TCD. The "display current item" command is equivalent to the "display backward item" command and the "display next item" command is equivalent to the "display forward item" command.

Solution- Delete the "display previous item" command, rename the "display current item" to "display backward item", and rename "display next item" to "display forward item".

13) Problem - The following shift out sequences have been deleted from the Version 2.0 firmware:

a) SO T Insert SOM character
b) SO d Define area
c) SO i Justify paragraph

Solution- Reinstate the deleted shift out sequences.

14) Problem - The second to last sentence in paragraph 8.6 reads: "If neither of the two requisite item marks are found,...". This appears to be a wording problem.

Solution- Change the sentence to read: "If either of the two requisite item marks is not found,...".

The following two problems are of the lowest priority. A solution is not listed for these problems because the loss of these functions does not appear to impact SAFE at this time. They are being noted here for future reference.

15) Problem - The following shift out sequences have been deleted from the Version 2.0 firmware:

a) SO x Change-illegal
b) SO+N Delete first page
c) SO+O Delete last page

16) Problem - The following ARM commands have been deleted from the Version 2.0 firmware:

a) Transmit first page
b) Transmit last page
c) Transmit search result

The above problems break down into the three categories listed below.

Category	Problems
Deleted functions	1, 10, 13, 15, 16
Implementation problem	2, 3, 4, 5, 8, 9, 11, 12, 14
Not implemented	6, 7